BEFORE THE

Federal Communications Commission

WASHINGTON, D. C.

In the Matter of	)	
	)	
	)	
Redevelopment of Spectrum to	)	ET Docket No. 92-9
Encourage Innovation in the	)	
Use of New Telecommunications	)	RM - 7981
Technologies	)	RM - 8004

REPLY OF
HOME BOX OFFICE,
A Division of Time Warner Entertainment Company, L.P.

Home Box Office ("HBO"), a Division of Time Warner Entertainment Company, L.P., by its attorneys and pursuant to Section 1.415 of the rules of the Federal Communications Commission (the "Commission"), hereby submits its reply in response to the comments filed in the above-captioned proceeding.[1]

For the reasons set forth in its earlier comments and for those below, HBO opposes the Commission's proposed rechannelization of both the 3.7-4.2 GHz band (the "Downlink") and the 5.925-6.425 GHz band (the "Uplink" and, collectively with the Downlink, the "C-Band") and urges the Commission not to

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1 The Commission extended the date on which replies are due to January 27, 1993. *In the Matter of Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies* ("Redevelopment of Spectrum"), Order Extending Time For Reply Comments, DA 93-9, January 7, 1993.

adopt its, or other, proposed rechannelization plans for the Downlink and/or the Uplink.[2]

With respect to the Downlink, the record in this proceeding demonstrates that the Commission's proposed rechannelization could cause severe disruption to the reception of satellite programming services provided in the Downlink and could create undue hardship for owners of Downlink satellite reception equipment. Although the Commission should permit 2 GHz microwave users, to the extent they are displaced by new and emerging technologies, to relocate in the Downlink, such 2 GHz users should be subject to the frequency plan currently used in the Downlink.

The record also supports maintenance of the current frequency plan used in the Uplink. The Commission's proposed rechannelization plan would make it more difficult to construct new uplink facilities and expand existing ones. In addition, the proposed rechannelization of the Downlink and Uplink would place an unfair burden on current owners of satellite earth stations by permitting all potentially displaced 2 GHz users to

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[2] Several of the comments in this proceeding, such as those filed by AT&T, ComSearch, the Telecommunications Industry Association, Harris Corporation and MCI Corporation, proposed alternative rechannelization plans for the Downlink and the Uplink which differ to varying degrees from that proposed by the Commission. To the extent that these alternative proposals create narrowband channels in the Downlink and/or Uplink and permit migration to the C-Band of displaced 2 GHz requiring narrowband capacity, such alternative proposals will have the same undesirable and damaging effect as the Commission's proposed rechannelization. Therefore, HBO opposes such alternative rechannelization plans for the same reasons it opposes the Commission's proposed rechannelization plan.

relocate to the C-Band. If the Commission, however, believes it to be necessary to rechannelize the Uplink, HBO, in the alternative, respectfully urges the Commission to at least create a process whereby owners of satellite uplink facilities could coordinate their sites to accommodate future expansion and avoid the risk of being unable to further develop their facilities as future needs require.

I. THE DOWNLINK

As illustrated by Norman Weinhouse in the technical discussion attached to HBO's comments ("Technical Discussion") and as supported by National Public Radio, Inc. ("NPR"), Hughes Communications Galaxy, Inc. ("HCG"), the Satellite Broadcasting and Communications Association ("SBCA"), and GE American Communications, Inc. ("GE Americom"), the Commission's proposed rechannelization of the Downlink could create severe disruption to the reception of programming services transmitted by satellites operating in the C-Band. The sharing of the Downlink spectrum between fixed satellite services and terrestrial microwave services has been made possible in large measure by the ability of television receive-only ("TVRO") units to filter out terrestrial interference. The success of this filtering depends on the frequency plan which has been utilized by both services since the 1960s.[3]

The Commission's proposed rechannelization of the Downlink has two aspects. First, it proposes to establish narrowband

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[3] See Technical Discussion at 5-6.

channels of 400 kHz, 800 kHz, 1.6 MHz and 5 MHz bandwidths in the 3.7-3.74 GHz and the 4.16-4.2 GHz bands. Second, the Commission's proposed rechannelization of the Downlink would permit channels of 10 MHz bandwidth across the entire Downlink, centered at 3705 MHz and every 10 MHz thereafter. Both aspects of the Commission's proposed rechannelization of the Downlink would result in terrestrial sources of interference appearing in the Downlink at various frequencies less than 10 MHz from the center frequencies of the satellite transponders.

If the Commission adopts its proposed rechannelization of the Downlink, the coordination of the four transponders on each satellite which utilize the 3.7-3.74 and 4.16-4.2 GHz bands could become severely complicated and burdensome for the licensees of earth stations in the Downlink.[4] Unlicensed TVRO earth stations could experience complete loss of the signals carried on the four satellite transponders which utilize these two 40 MHz bands.[5] In addition, all the Downlink transponders could be subject to irreparable interference from the proposed 10 MHz bandwidth channels, the centers of which will be located only 5 MHz from the center frequencies of each Downlink transponder.[6]

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4 Comments of NPR at 6; Comments of GE Americom at 9; Comments of HCG at 5. Likewise, the coordination of narrowband channels in the Downlink could become prohibitively burdensome. Comments of ComSearch at 9.

5 Technical Discussion at 6; Comments of NPR at 5; Comments of HCG at 5-6.

6 Technical Discussion at 6; Comments of HCG at 5. See also Proposed Rules §§ 21.701(d)(5) and 94.65(g)(5),

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The most significant hardship resulting from the proposed rechannelization of the Downlink would be borne by home TVRO owners. Having invested considerable sums in home satellite antennas and receiving equipment, many home TVRO owners could encounter unacceptable and irreparable terrestrial interference from displaced 2 GHz users under the rechannelization plan proposed by the Commission.[7] Thus, they could suffer complete loss of the video programming services delivered on those channels where interference occurs and a loss of their existing investment in home satellite equipment.[8]

The Utilities Telecommunications Council ("UTC") attempts to downplay the impact on the home TVRO industry by suggesting that unlicensed home TVRO users are not entitled to interference protection.[9] Thus, UTC argues that the Commission should ignore the severe and adverse effect rechannelization would have on the home TVRO industry. Entertainment and informational television is provided to more than 3.5 million American homes by means of the home TVRO industry.[10] The home TVRO industry competes with cable television and other video programming delivery systems and provides a healthy diversity in the provision of video

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Redevelopment of Spectrum, 7 F.C.C.Rcd 6100, 6118-19 and 6136-37 (1992).

7 Comments of GE Americom at 3.

8 Id. at 3; Comments of SBCA at 13.

9 Comments of UTC at 6.

10 Comments of HBO at 2; Comments of SBCA at 2-3.

programming to consumers.[11] The home TVRO industry also provides a multitude of video program options to persons who otherwise would receive only limited program choice because they are located outside the reach of television broadcast stations and cable television systems.[12] Because the home TVRO industry offers such selection and diversity, the Commission should support this industry and not permit technical interference to destroy it.[13]

The Commission has long recognized that a strong home TVRO industry is in the public interest. When the Commission decided to deregulate TVRO earth stations, it did so based on its determination

> that relaxing unwarranted regulatory constraints on receive-only earth station use would measurably enhance the public's opportunity to receive more diversified programming consistent with the 1934 Act's stated goal of "generally encouraging the larger and more effective use of radio in the public interest."[14]

Rechannelization of the Downlink would be a reversal of the express policy of the Commission and would be contrary to the public interest.

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11 Comments of SBCA at 5.

12 See Comments of SBCA at 6-7.

13 Comments of GE Americom at 13.

14 *In The Matter Of Inquiry Into The Scrambling Of Satellite Television Signals And Access To Those Signals By Owners Of Home Satellite Dish Antennas*, 6 F.C.C.Rcd 1669, 1669 (1987), citing, *In the Matter of Regulation of Domestic Receive-Only Satellite Earth Stations*, 74 F.C.C.2d 205 (1979).

It should be noted that UTC revisits its earlier, and since rejected, proposal of allocating certain spectrum in the Downlink for exclusive use by terrestrial microwave licensees.[15] The Commission in its Further Notice of Proposed Rulemaking specifically rejected this proposal, finding that "the requirements of the [fixed satellite services] outweigh the needs of fixed terrestrial users for an exclusive primary allocation of 80 MHz in this band."[16] There is no basis for the Commission to rescind this general determination, as suggested by UTC.

II. THE UPLINK

In its comments HBO recommended that the Commission maintain the existing channelization plans for the Uplink and permit displaced 2 GHz users to relocate in the Uplink subject to the existing channelization plans. This approach would foster an equitable relocation of 2 GHz users throughout the five available bands identified by the Commission. Those 2 GHz users requiring high capacity channels could relocate to the Uplink, as well as the Downlink, subject to coordination within the confines of the existing frequency plan. Any displaced 2 GHz users requiring narrower channel capacity could relocate to the higher available bands proposed by the Commission. Creating a channelization plan that would encourage or permit any displaced 2 GHz user to migrate to the Downlink and/or

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15 Comments of UTC at 6.

16 Redevelopment of Spectrum, 7 F.C.C.Rcd at 6104.

Uplink would unfairly burden the existing satellite and terrestrial microwave users in the C-Band with increased costs and requirements of coordination.[17]

If the Commission nevertheless believes it necessary to adopt its proposed, or some alternative, rechannelization plan for the Uplink, HBO urges the Commission to establish a process that would permit prior coordination of major uplink sites, thus enabling future growth by existing uplink users. Otherwise, large uplink installations, such as HBO's in Hauppauge, New York, and teleports across the country, would be severely limited in their ability to expand uplink services to meet future demand.

Microwave common carrier operators in the C-Band use a prior coordination process in order to ensure the availability of frequencies for expansion.[18] This process "has been an invaluable tool in the planning for long range growth, particularly in frequency congested areas."[19]

The facilities used by large C-Band satellite users such as HBO, and by teleports, are sophisticated and elaborate complexes which use numerous antennas and frequencies and simultaneously

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17 See Comments of National Spectrum Managers Association at 2 (encouraging Commission for purposes of efficient spectrum utilization to relocate 2 GHz users requiring narrowband capacity to bands where narrowband channelization plans already exist).

18 Comments of the Bell Atlantic Companies ("Bell Atlantic") at 3; Comments of Western Tele-Communications, Inc. ("WTCI") at 4. See also 47 C.F.R. § 21.100(d) (1991).

19 Comments of Bell Atlantic at 3. See also Comments of WTCI at 5.

uplink to a large number of satellites. Such facilities typically are developed over many years, and, similar to common carrier microwave systems,[20] the initial investment in these facilities is based on projected future transmission needs. For example, HBO's uplink facility in Hauppauge, New York was initially constructed with three (3) C-Band antennas in 1981. The property and buildings were purchased and developed, however, with significant expansion capability, leaving room for considerable growth. Subsequently, HBO added one (1) C-Band antenna in 1982, two (2) Ku-Band antennas in 1985, one (1) C-Band antenna in 1990 and two (2) C-Band antennas in 1991.

The ability to expand facilities, such as the Hauppauge uplink, is critical to the provision of uplink services. Like terrestrial microwave common carriers,[21] operators of uplink facilities must have a reasonable certainty that frequencies will be available to meet growing demand. Successfully coordinating the location of satellite uplink facilities using the Uplink is quite difficult already, especially in major urban areas. The addition of displaced 2 GHz users utilizing various narrowband channels in the Uplink will substantially increase the complications of coordinating additional earth stations for developing uplink facilities.[22] Therefore, if the Commission adopts a new channelization plan for the Uplink, then it should also permit operators of satellite uplink facilities to protect

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20 Comments of EMI Communications Corporation ("EMI") at 3.

21 See Comments of EMI at 3.

22 Comments of GE Americom at 12.

their investment through a prior coordination process similar to that used by microwave common carriers. This process would enable uplink operators to "reserve" frequencies for future expansion, subject to reasonable time requirements for construction of expanded facilities. Due to the nature of large satellite uplink installations, HBO submits that prior coordination of future antennas should be permitted at a minimum for up to three years before construction and only to be relinquished upon a demonstration of need by others.

CONCLUSION

For the foregoing reasons, the Commission should maintain the frequency plans currently used in both the Downlink and the Uplink and permit 2 GHz users that may be displaced to relocate in the Downlink and Uplink subject to the existing frequency plans in the C-Band. If, however, the Commission finds it necessary to rechannelize the Uplink, it should permit owners of satellite uplink facilities to prior coordinate future antennas to ensure reasonable growth capability.

Respectfully submitted,

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Date: January 27, 1993

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